Preface

The *Annual Energy Outlook 2003* (*AEO2003*) presents midterm forecasts of energy supply, demand, and prices through 2025 prepared by the Energy Information Administration (EIA). The projections are based on results from EIA's National Energy Modeling System (NEMS).

The report begins with an "Overview" summarizing the *AEO2003* reference case. The next section, "Legislation and Regulations," discusses evolving legislative and regulatory issues. "Issues in Focus" discusses recent EIA analyses of energy legislation provisions; MTBE phaseout and renewable fuels standard proposals in the Energy Policy Act of 2002; the Bush Administration's Clear Skies Initiative; recent revisions in EIA's electricity and natural gas data series; natural gas depletion and wellhead productive capacity; emerging options for U.S. natural gas supply; recent additions to U.S. electricity generating capacity; and U.S. greenhouse gas intensity. It is followed by an analysis of projected energy market trends.

The analysis in *AEO2003* focuses primarily on a reference case and four other cases that assume higher and lower economic growth and higher and lower world oil prices than in the reference case. Forecast tables for those cases are provided in Appendixes A through C. Alternative cases explore the impacts of varying key assumptions in NEMS—e.g., technology penetration. The major results for the alternative cases are shown in Appendix F. Appendix G briefly describes NEMS, the *AEO2003* assumptions, and the alternative cases.

The *AEO2003* projections are based on Federal, State, and local laws and regulations in effect on September 1, 2002. Pending legislation and sections of existing legislation requiring funds that have not been appropriated are not reflected in the forecasts. In general, the historical data used for the *AEO2003* projections were based on EIA's *Annual Energy Review 2001*, published in November 2002; however, data were taken from multiple sources. In some cases, only partial or preliminary 2002 data were available. Historical data are presented in this report for comparative purposes; documents referenced in the source notes should be consulted for official data values. The projections for 2002 and 2003 incorporate the short-term projections from EIA's September 2002 *Short-Term Energy Outlook*.

The *AEO2003* projections are used by Federal, State, and local governments, trade associations, and other planners and decisionmakers in the public and private sectors. They are published in accordance with Section 205c of the Department of Energy Organization Act of 1977 (Public Law 95–91), which requires the EIA Administrator to prepare annual reports on trends and projections for energy use and supply.

The projections in *AEO2003* are not statements of what will happen but of what might happen, given the assumptions and methodologies used. The projections are business-as-usual trend forecasts, given known technology, technological and demographic trends, and current laws and regulations. Thus, they provide a policy-neutral reference case that can be used to analyze policy initiatives. EIA does not propose, advocate, or speculate on future legislative and regulatory changes. All laws are assumed to remain as currently enacted; however, the impacts of emerging regulatory changes, when defined, are reflected.

Because energy markets are complex, models are simplified representations of energy production and consumption, regulations, and producer and consumer behavior. Projections are highly dependent on the data, methodologies, model structures, and assumptions used in their development. Behavioral characteristics are indicative of real-world tendencies rather than representations of specific outcomes.

Energy market projections are subject to much uncertainty. Many of the events that shape energy markets are random and cannot be anticipated, including severe weather, political disruptions, strikes, and technological breakthroughs. In addition, future developments in technologies, demographics, and resources cannot be foreseen with any degree of certainty. Many key uncertainties in the *AEO2003* projections are addressed through alternative cases.

EIA has endeavored to make these projections as objective, reliable, and useful as possible; however, they should serve as an adjunct to, not a substitute for, analytical processes in the examination of policy initiatives.